

# QUEST

ADVENTURES IN THE WORLD OF SCIENCE

## BODY MACHINE

# 27

GIANT BOXING POSTER

PROJECTS

DISCOVER SUPER  
STRENGTH

### FACT FILES ON:

- ▶ What makes a world-beater?
- ▶ Bionic eyes and ears
- ▶ The will to win
- ▶ Evolutionary forces
- ▶ Maintaining health
- ▶ Muscle power
- ▶ The toughest animal

MORE Q & A CARDS

UK £1.99 IRE£2.25 Aust \$4.95 NZ \$5.95 (inc. GST) Malaysia RM5.90 Sing \$5.95 Malta Lm1.75 S. Africa R8.95

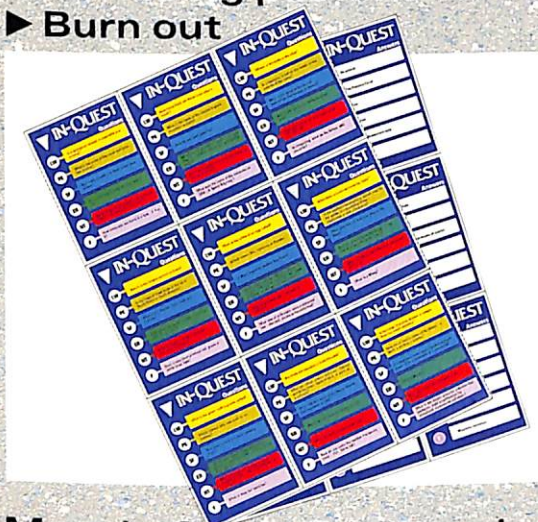
FULLY  
SOR



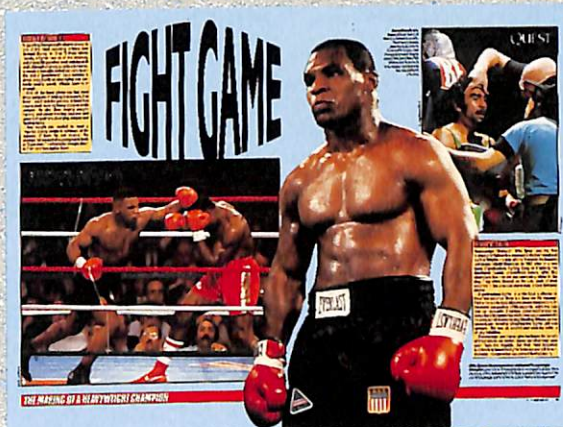
# INSIDE THIS PACK

## FACT FILES

- ▶ Human Performance
- ▶ Power training ▶ Fight or flight response
- ▶ Body maintenance
- ▶ Artificial limbs
- ▶ Achieving peak fitness
- ▶ Burn out



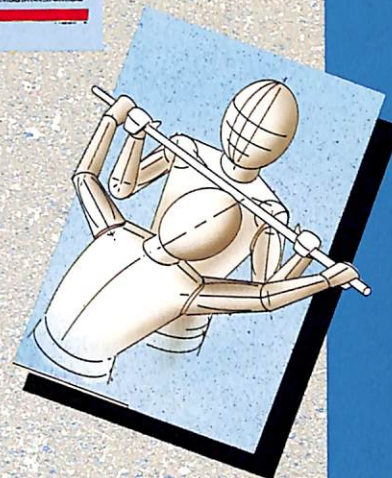
More In-Quest Q&A cards



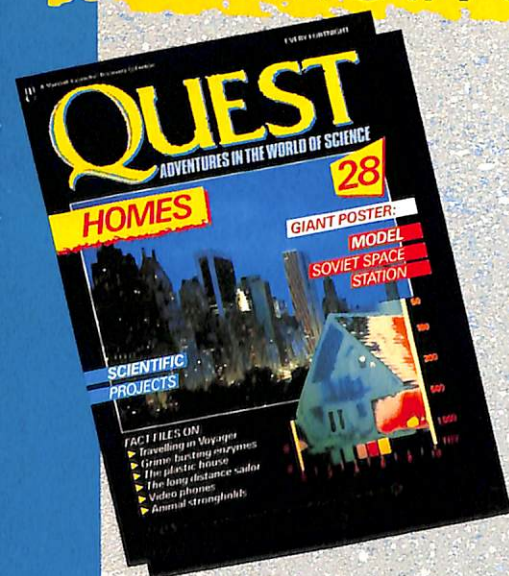
## POSTER

Fight Game

## SCIENTIFIC PROJECTS

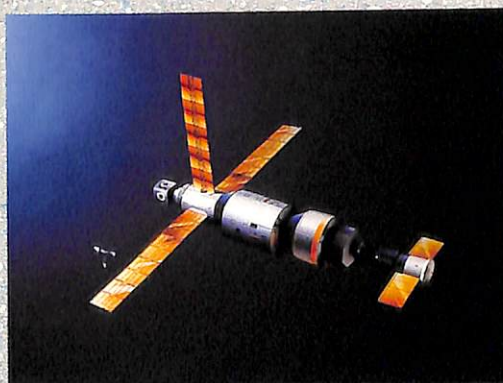


## COMING IN QUEST 28 THE HOME.



## FACT FILES INCLUDE:

- ▶ Mobile Homes ▶ World catastrophes ▶ Secret life in your home ▶ On board an aircraft carrier
- ▶ House of the future
- ▶ Dens and lairs



## MODEL

Mir Space Station



## POSTER

Home on the road

ISSN 1350-3766





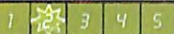


# PROJECTS

## BODY MACHINE

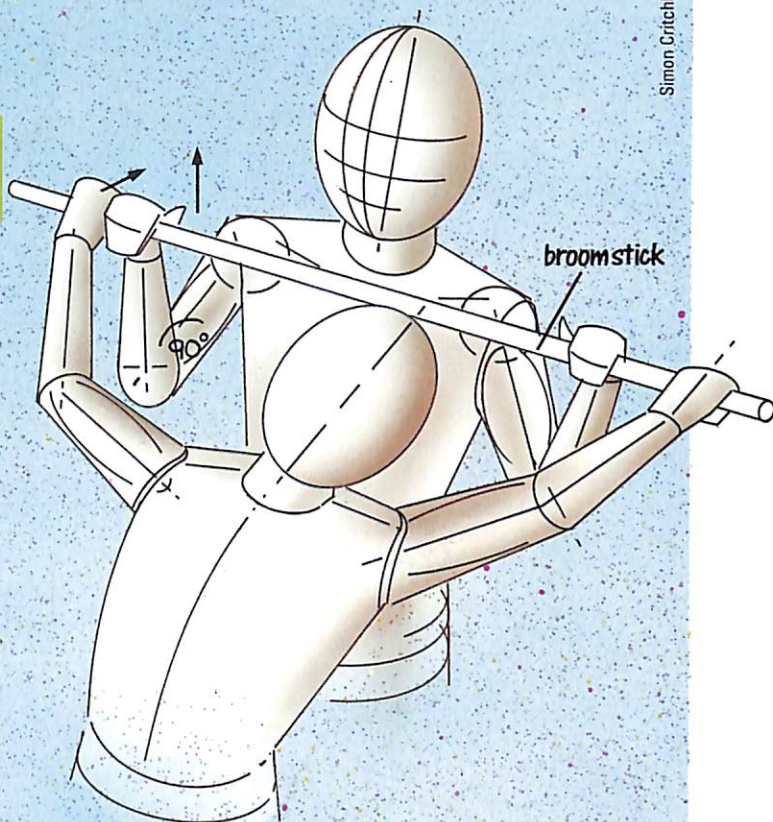
- Use the principles of science to give yourself super strength.

### GAIN SUPER STRENGTH



By deflecting pressure into space you can surprise your friends with your amazing strength.

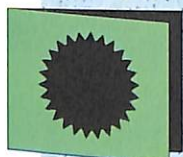
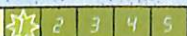
Hold a broomstick horizontally, at shoulder height, as shown. Your hands should be spread, your elbows at right angles and the stick about 25 cm from your chest. Challenge a friend to try and push you over. He should hold the stick with his hands outside yours, take half a step backwards, then lean all his weight onto the stick without jerking. Pushing as hard as he can he will not be able to move you. As he pushes you must press upwards, keeping the stick in the same position. You can even challenge a second or a third friend to push as well. As long as you push smoothly, matching your effort with the effort against you, no-one will suspect anything.



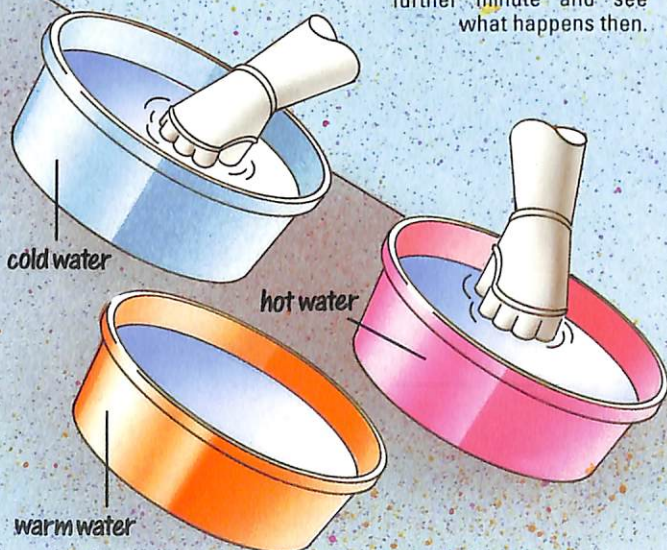
Simon Critchley

## ADVENTURES IN THE WORLD OF SCIENCE

### BODY TEMPERATURE



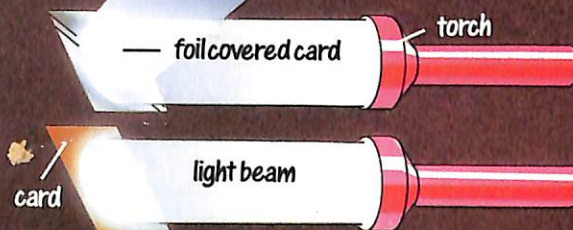
Take three bowls and fill the first with cold water, the second with warm water and the third with hot water (take care that it is not too hot to put your hand in, though). Now put one hand in the cold water and one hand in the hot water. After one minute quickly put both hands into the warm water. What happens? Leave them there for a further minute and see what happens then.



### THE OZONE HOLE



You will need some silver foil, a piece of card, a torch, a pen and some glue. Glue foil on to one side of the card. In darkness, hold the 'mirror' in front of the torch at an angle, and the light from the torch will bounce off it. If you turn the card over to the non-mirrored side, no light will be reflected. This is a simplified way of showing how the ozone layer works.



### PROJECT INFORMATION



Each **QUEST** project has its own difficulty rating: 1 very simple, 2 simple, 3 intermediate, 4 advanced, 5 complicated.

Every care has been taken to ensure projects are as safe as possible. However, parents should supervise all projects. The publisher can accept no liability for injury.

**WARNING!**



## UNDERGROUND: THE PRINCIPAL ACTIVE VOLCANOES

| Name            | Height<br>(metres) | Location          | Country       | Last<br>Eruption |
|-----------------|--------------------|-------------------|---------------|------------------|
| Cameroon Mt     | 4,070              |                   | Cameroon      | 1959             |
| Cotopaxi        | 5,897              | Andes             | Ecuador       | 1975             |
| Erebus          | 3,795              | Ross I            | Antarctica    | 1975             |
| Mt Etna         | 3,308              | Sicily            | Italy         | 1979             |
| Guallatiri      | 6,060              | Andes             | Chile         | 1960             |
| Hekla           | 1,447              |                   | Iceland       | 1980             |
| Irazu           | 3,452              | Cordillera        | Costa Rica    | 1967             |
| Klyuchevskaya   | 4,850              | Sredinnyy Khrebet | USSR          | 1974             |
| Koryakskaya     | 3,456              | Kamchatka         | USSR          | 1957             |
| Lascar          | 5,641              | Andes             | Chile         | 1968             |
| Mauna Loa       | 4,170              | Hawaii            | USA           | 1978             |
| Nyiragongo      | 3,470              | Virunga           | Zaire         | 1977             |
| Ojos del Salado | 6,885              | Andes             | Argentina     | 1981             |
| Pico de Teide   | 3,718              | Tenerife          | Spain         | 1909             |
| Popocatepetl    | 5,451              | Altiplano         | Mexico        | 1920             |
| Purace          | 4,590              | Andes             | Columbia      | 1977             |
| Rindjani        | 3,726              | Lombok            | Indonesia     | 1966             |
| Mt St Helens    | 2,949              | Cascade Range     | USA           | 1980             |
| Sangay          | 5,230              | Andes             | Ecuador       | 1976             |
| Semeru          | 3,676              | Java              | Indonesia     | 1976             |
| Slamat          | 3,428              | Java              | Indonesia     | 1967             |
| Mt Spurr        | 3,374              | Alaska Range      | USA           | 1953             |
| Stromboli       | 926                | Island            | Mediterranean | 1975             |
| Tacaná          | 4,078              | Sierra Madre      | Guatemala     | Rumbles          |
| Tajumulco       | 4,220              | Andes             | Guatemala     | Rumbles          |
| Tambora         | 2,850              | Sumbawa           | Indonesia     | 1913             |
| Tupungatito     | 5,640              | Andes             | Chile         | 1964             |
| Vesuvius        | 1,280              | Bay of Naples     | Italy         | 1944             |

## Attention all Dataquesters!

We have had an enormous response to the PC programs that have appeared in the series so far. A great many of you have written in to ask us when we are going to include another program. As there are so many different systems available on the market nowadays, please do write in and tell us which system YOU would like to see a program for in *Dataquest*. We shall then do our best to produce programs that will be suited to the majority of our readers.

Write, telling us which system you would like to see featured, to:

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We look forward to hearing from you – keep inputting!



## BATTLE MACHINE

A gruelling heavyweight championship is one of the most punishing ordeals ever devised. During its 12 or 15 three-minute rounds, a fighter can be on the receiving end of over 200 punches, each arriving at 50 km/h. A lengthy training schedule is needed to create a man able to deal out—and take—this kind of ‘punishment’. Each exercise is aimed specifically at developing one particular quality: speed, reflexes, stamina or strength.

One of the least glamorous but most important parts of training is roadwork. The boxer runs 5 to 6 km per day at least five days a week, wearing heavy boots or ankle weights. He also does lengthy weight-training and circuit-training sessions and spars with partners of varying weights and fighting styles.

Any weight-loss needed to meet a required boxing weight is achieved at the expense of body fat, not muscle. The average fat content of a young man's body is 15 per cent. This has to be brought down to 7 per cent for a typical boxer.

# FIGHT GAME

*Mike Tyson delivers a left hook to challenger Frank Bruno, in February 1989. But the art of boxing is about avoiding punches as well as giving them, and Bruno wards it off. Though Bruno fought bravely, he was outclassed and went down to Tyson in the fifth round.*



Bob Martin/Allsport

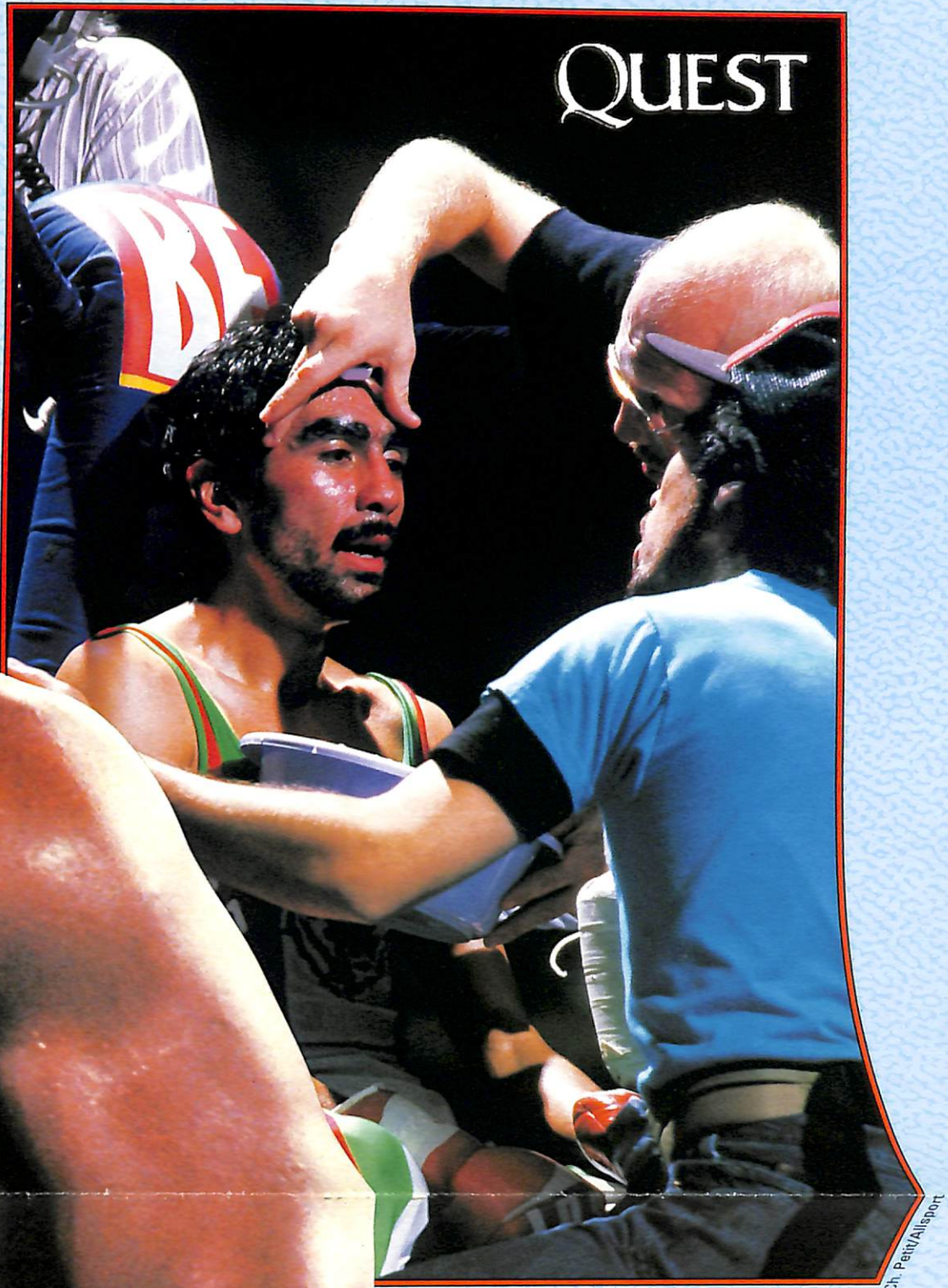
## THE MAKING OF A HEAVYWEIGHT CHAMPION





**Seconds work on a boxer, Marion Liano of Mexico, between rounds. The trainer smears petroleum jelly on his forehead to stop sweat from getting into his eyes and to help punches slide off the boxer's head. In this amateur contest only two seconds are allowed.**

Sporting Pictures UK Ltd



### SECONDS OUT...

Heavyweight Champion Mike Tyson won his first professional fight with a knockout in the first round and his first 10 fights in a total of only 16 rounds. He became undisputed World Champion in 1987, after only two years of professional fighting. Long hard training developed Tyson's unparalleled natural gifts. But champions such as Tyson are not completely alone in the ring. They often depend on the vital work of their seconds in the precious one-minute breaks between rounds.

A professional fighter in a title bout is allowed to have four seconds. Generally these are his manager, his trainer, a cuts specialist and an assistant second. In the numerous pockets of his second's jacket the cuts man carries swabs, dressings, cotton wool and so on, as well as a few permitted medicines such as adrenalin chloride, which is used to stop bleeding. Otherwise, the seconds are limited to refreshing their fighter with wet sponges. The use of alcohol and smelling salts is strictly forbidden.

The manager and trainer give the boxer the benefit of their advice on tactics, based on what they have seen from the ringside. But their most important function is to boost the fighter's morale and will to win, no matter how great the punishment that he's taking.

**Mike Tyson was the youngest ever undisputed Heavyweight Champion. He is not as tall as some other champions, but he is just as heavy, with a body weight of 97.5 kg to put behind his punch. He has 43 cm biceps and his chest is 117 cm round when expanded.**